

Kansas Public Health Association, Inc.

SAMUEL J. CRUMBINE
BANQUET



HONORING

Cora M. Downs, Ph.D.

Wednesday, May 19, 1971

Ramada Inn

Topeka, Kansas

THE SAMUEL J. CRUMBINE MEDAL



Presented for outstanding service in public health

- 1946—Samuel J. Crumbine, M.D.
- 1947—Clarence H. Kinnaman, M.D.
- 1948—Charles H. Lerrigo, M.D.
- 1951—Earnest Boyce, C.E.
- 1952—E. V. McCollum, Ph.D.
- 1954—Earle G. Brown, M.D.
- 1955—Karl A. Menninger, M.D., and
William C. Menninger, M.D.
- 1956—Ralph I. Canuteson, M.D.
- 1958—Vernon M. Winkle, M.D.
- 1961—Franklin D. Murphy, M.D.
- 1962—Leona Baumgartner, M.D.
- 1963—Charles A. Hunter, Ph.D.
- 1964—Fred Lowe Soper, M.D.
- 1965—Dwight F. Metzler, C.E., M.P.H.
- 1966—Geoffrey M. Martin, M.D., M.P.H.
- 1967—W. Fred Mayes, M.D., M.P.H.
- 1968—M. Leon Bauman, M.D., M.P.H.
- 1969—Thomas R. Hood, M.D., M.P.H.
- 1970—Evan Wright



DR. CORA M. DOWNS

Dr. Cora Downs, renowned scientist, has been selected to receive the 1971 Samuel J. Crumbine Medal by the Kansas Public Health Association. She is one of the top five researchers in the world in the study of rickettsia, the family to which the "Q" fever organism belongs. Her research led to breakthroughs in bacteria identification, rabbit fever control, and rickettsia study.

Dr. Downs planned to retire in 1967, when contracts with the National Science Foundation, National Institutes of Health, and the Army Surgeon General's office ran out. She finally consented to stay "just one more year." Today she is still in the University of Kansas microbiology department as advisor to the research program on Q fever.

Cornelia Mitchell Downs was born on December 23, 1893 in Kansas City, Kansas. Both graduates of the University of Michigan, her parents met when they were in college. Her father became a physician and practiced in Kansas City.

She attended Wyandotte High School in Kansas City, and went to Lawrence in 1911. Interested in medical school, Cora Downs took her first course in the bacteriology department of the University of Kansas in 1913 shortly after the department was created.

After receiving her degree in bacteriology in 1915, she spent two years in the Atchison Hospital as a laboratory technician doing diagnostic work. She returned to KU in 1917 as a laboratory instructor, in old Snow Hall.

Then Cora Downs began to study for her Master's degree—on typhoid fever. That was the Fall of the influenza epidemic in America. The Student Army Training Corps (SATC) had been formed for World War I and some laboratories set up in Lawrence to handle specimens of stricken cadets. Samples were analyzed for pneumonia, streptococcus and meningitis. Dr. Downs was a lab diagnostician, taking her first two years of medicine at the same time.

She received her M.A. degree in 1920. During the summers of 1921 and 1922, she went to the University of Chicago and took pathology. Out of the entire class, she was invited to accept a position, but she returned to KU and the Bacteriology Department.

Dr. Downs taught pathogenics, diagnostic and immunology, and set up a course in pathogenesis (experimental pathology on animals). After receiving her Ph.D. degree, she continued teaching and doing research. She studied anaphylaxis in cold-blooded animals. She also investigated typhoid fever in Lawrence and a diphtheria epidemic in Eldorado. In 1924, Dr. Downs became an assistant professor.

In 1929, she became interested in tularemia. A local physician could not identify a case, in which the man had killed rabbits for food and had developed lesions. Dr. Downs had heard Dr. Thomas Francis tell about isolating tularemia from rabbits. She collected pus and blood from the human, and sent it to Dr. Francis in Washington. He wired back that they should take every precaution; it was tularemia. This was the stimulus for her further work.

Dr. Downs tried to cultivate and grow the tularemia agent in animals. Ten years later, she studied it in rabbits and tried unsuccessfully to immunize the animals.

In 1939, she went to Rockefeller Institute on a sabbatical leave. She worked on tularemia and pneumonia for a year. In the summer of 1941, she went to the Rocky Mountain Laboratory, at Hamilton, Montana. Q fever had been found at Nine Mile Creek, and the laboratory was also making Rocky Mountain spotted fever vaccine from ticks. Egg work was just beginning.

The summer of 1943 found America at war, and Dr. Downs took leave from Kansas. She went to Chemical Warfare Service at Fort Detrick as a civilian expert, in highly classified work. Dr. Downs returned to KU for one semester. She returned to Fort Detrick, and stayed until 1945. She continued to serve as consultant there until 1963.

Because she saw so many similarities between tularemia and typhus, Dr. Downs became interested in typhus. She spent the summer of 1944 in Montana, working with typhus and beginning work on Q fever.

In the mid-1950's, Dr. Downs, together with colleagues in the Department of Bacteriology, and in Pharmacology, pioneered the development and use of the fluorescent antibody technique. Her chief contribution to this work was the mechanism of synthesis of the fluorescent dye. This method, patented, is now in use all over the world, and provides laboratories with a virtually instantaneous means of identifying bacteria and viruses.

Dr. Downs became a full professor in bacteriology at KU in 1936. She has trained numerous Ph.D. students, as well as people who went on for their M.D. degrees. She retired from teaching in 1963 after 45 years, planning to continue research.

Somehow she never forgot her former students, many of whom affectionately call her "Doc." The attention that she gave them is one of her remarkable characteristics. When traveling, she visited them bringing news of the department. "Somehow or other that lovely lady kept a whole department and its students happy," one of them recalls.

There are many stories about the fabled Dr. Downs. Here is one example of the respect her colleagues have for her. Asked if only two pictures—Dr. Downs' and Pasteur's—hang in the microbiology department lecture room, one professor remarked, "I think the other one is Pasteur's."

Honors and Professional Organizations

Dr. Downs was a Senior Research Fellow of the National Institutes of Health and was at the Sir William Dunn School of Pathology at Oxford in 1959-60. In 1964, she was awarded the Distinguished Service Award of the University. (KU does not grant honorary degrees, but reserves its distinguished service awards for its most illustrious alumni). She was named Solon E. Summerfield Distinguished Professor of Bacteriology in 1963. She has received the Theta Sigma Phi journalism award and has been elected to the KU Women's Hall of Fame.

Dr. Downs is a member of both the Society and American Academy of Microbiology. Her work on tularemia, and with typhus and Q fever rickettsia have given her international recognition. Her picture is included in the USSR Academy of Science at Moscow.

In her lifetime, she has published about 100 original research papers and is still active as a collaborator in Q fever studies at the University of Kansas.

A colleague says, "Dr. Downs has a lifetime of work dedicated to science and education. She is a gracious lady with broad cultural interests as well. A seasoned traveler, she has been recognized by her scientific colleagues around the world. I can scarcely think of an alumna and faculty member who has made a stronger name in science than has Dr. Downs."

Her Personal Life

The image of the cold, white-frosted scientist does not fit Dr. Downs at all. Gray-haired, warm and friendly, she likes to grow roses, travel, and read English history. She has been described as "one of the most delightful human beings I have ever known, in addition to having been one of my best teachers."

That description probably could have come from any of her students. It is from Dr. Leona Baumgartner, Executive Director, Tri-State Regional Medical Program, Medical Care and Education Foundation, Inc. and Visiting Professor of Social Medicine, Harvard Medical School. She received the KPHA Crumrine Medal in 1962 while Dr. Downs looked on.

Now Dr. Baumgartner shares some of her memories of Dr. Downs.

"It is hard to know what to recall that gives one the most pleasure. I loved going to her apartment on Oread Avenue and later to her house. She would take down her exquisite china and I learned about it from her. Somehow she instilled in me from an early age an appreciation of fine things. I knew her before I was one of her students, and a visit to Cora's house was always a special treat. One got delicious things to eat as well, which has delighted me all of my life.

"Another wonderful memory is her companionship with her brother Harry. When they came back from a trip, the stories were wonderful. When they gave a party together, it was a real occasion. She shared with you her joy in her brother and in her travels, just as she shared the lovely china I remembered as a little girl. She is a wonderful bundle of brains, affection, integrity, and above all, a lady in the best old-fashioned sense of the word."

KPHA salutes that lady—Cora M. Downs—with its Samuel Crumbine Medal.